

Appl. No. 10/035,633
Amdt. dated September 23, 2005
Reply to Office Action of June 23, 2005

REMARKS/ARGUMENTS

Introduction:

Claims 375, 376, and 404 are amended, and claims 425-428 are newly added. Claims 375-428 are pending in the application. Applicants respectfully request reexamination and reconsideration of the application.

Continuing Data:

The specification has been amended to update the continuing data and now corresponds to the continuing data originally supplied in the Application Data Sheet filed with the application.

Rejections Based on Prior Art:

Claims 375, 380-389, 391-396, 398, 400-409, 411, 412, 414-418, 420, 423, and 424 were rejected under 35 USC § 102(b) as anticipated by US Patent No. 4,916,002 to Carver ("Carver"), and claims 375-424 were rejected under 35 USC § 103(a) as obvious in view of Carver. Applicants respectfully traverse these rejections.

Independent claim 375 is directed to a "method of forming a contact assembly" that includes the steps of "fabricating a plurality of contact structures" and "providing a substrate comprising an array of electrical connections on a surface of said substrate." Then, *after* fabricating the contact structures and *after* providing the substrate, "ones of said plurality of contact structures [are attached] to ones of said array of electrical connections." In other words, the step of attaching the contact structures to the electrical connections on the substrate does not occur until *after* the steps of fabricating the contact structures and providing the substrate are performed. Carver fails to teach or suggest the foregoing requirement, namely, that the step of attaching the contact structures to the electrical connections on the substrate occurs *after* the steps of fabricating the contact structures and providing the substrate.

In the Office Action, tip 24 of Carver was equated with the contact structures of claim 375. As shown in Figure 2D of Carver, tip 24 is connected to nitride layer 16 and conductive layer 26. As shown in Figures 2A and 2B, tip 24 is fabricated on nitride layer 16. Thus, there is no separate attaching step in which tip 24 is attached to nitride layer 16 much less a step in which tip 24 is attached to nitride layer 16 *after* fabricating tip 24, as would be required to meet the

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limitations of claim 375 if nitride layer 16 were to be equated with the substrate of claim 375. Moreover, as shown in Figures 2B and 2C of Carver, conductive layer 26 is fabricated on tip 24. Thus, tip 24 is not attached to conductive layer 26 *after* providing conductive layer 26, as would be required to meet the limitations of claim 375 if conductive layer 26 were to be equated with the substrate of claim 375.

Nor is there any teaching or suggestion that Carver should or could be modified such that nitride layer 16, tip 24, or conductive layer 26 are fabricated in any other sequence or way than disclosed in Carver. Otherwise, Carver would fail to meet its expressly stated objective of interlocking tip 24 with the nitride layer 16. (Carver col. 3, lines 12-24.)

For all of the foregoing reasons, Carver fails to anticipate or render obvious the method of claim 375.

Independent claim 404 similarly requires that an "attaching" step be performed *after* steps of "providing a substrate" and "fabricating . . . elongate contact structures." Carver therefore also fails to anticipate or render obvious the method of claim 404.

Dependent claims 376-403 and 405-428 depend from claims 375 or 404 and are therefore also patentable over Carver. Moreover, claims 376-403 and 405-428 recite additional features that are not taught or suggested by Carver.

For example, claim 376 includes "the further step of pooling said plurality of contact structures into a plurality of groupings prior to said attaching. The mere act of fabricating tips 24—which was equated with the pooling step of claim 376—does not pool contact structures into "a plurality of groupings" as now required by claim 376.

As another example, claims 389, 390, 396, 397, 412, 413, 420, and 421 require the use of wires. Without explanation, the Office Action concludes that silicon nitride pattern 40 and electroplated nickel layer 56 are wires. Neither a silicon nitride pattern 40 nor an electroplated nickel layer 56, however, are wires. In fact, Carver does not teach or suggest the use of wires of any kind. Therefore, Carver fails to anticipate or render obvious claims 389, 390, 396, 397, 412, 413, 420, and 421.

As yet another example, Carver fails to teach or suggest "inserting ends of said contact structures into recesses in said substrate" as required by claims 401 and 424. Carver thus fails to anticipate or render obvious claims 401 and 424.

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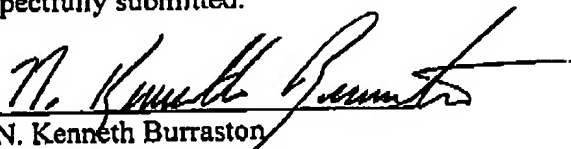
New claim 425 recites that the contact structures are fabricated "separate and apart from said substrate and said electrical connections," and new claim 426 states that the "contact structures are not attached to said electrical connections" following the fabricating step but prior to the attaching step. New claims 427 and 428 recite similar limitations. Carver fails to teach or suggest such features.

Conclusion:

In view of the foregoing, Applicants submit that all of the claims are allowable and the application is in condition for allowance. If the Examiner believes that a discussion with Applicants' attorney would be helpful, the Examiner is invited to contact the undersigned at (801) 323-5934.

Respectfully submitted.

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